THE CRINOID *MELOCRINITES TEMPESTUS* IN THE DEVONIAN CAMPWYN BEDS ON THE SHORE OF REPULSE BAY, SOUTH OF PROSERPINE. *Memoirs of the Queensland Museum 43: 352. 1999:-* Along the western shores of Repulse Bay, just south of Proserpine, the Campwyn Volcanics (Fergusson et al., 1994) extend from around Seaforth in the south to near Lethebrook in the north (Paine, 1972). About midway between Midgeton and Lethebrook, in the vicinity of the Laguna Quays Resort (termed Aqua del Rey in Fergusson et al., 1994), the Campwyn Volcanics outcrop in a broad intertidal band more than 100m wide. Strike is virtually parallel to the waterline and dip is to the west at very low angles. Muddy volcanoclastic limestones predominate with the percentage bioclasts highly variable between beds. In a few of these beds crinoidal and other shelly (including coral and brachiopod) debris is common; sections of stem up to 100mm long and 10mm in diameter are common. Cup and arm plates are rare. In 1991 Mr Bob Spencer forwarded the crinoid calyx figured herein to the Queensland Museum after having collected it in the intertidal area now disturbed by excavations for the Laguna Quays Resort; he also sent a badly weathered specimen of a large pleurotomariacean gastropod and a solitary rugose coral. Subsequent collection by the author has confirmed the provenance but failed to discover any further identifiable crinoids.

This crinoid (Queensland Museum Fossil 40967), with a high conical, smooth cup, 52mm long, is identified as a very large specimen of *Melocrinites tempestus* Jell et al., 1988. This assignment is based on the shape, arrangement and ornament of cup plates and cup shape. The specimens figured by Jell et al. (1988) are mostly weathered smooth but one (Jell et al., 1988, fig. 13G) shows the corners of cup plates depressed indicating that the unweathered cup had strongly convex plates as in the Campwyn Volcanics specimen.

The age of the Campwyn Volcanics has been given as Upper Devonian based on corals determined by Hill from near Seaforth (Jensen et al., 1966; McKellar in Roberts et al., 1971) and Lower Carboniferous based on brachiopods from the Mackay sheet, determined by McKellar (Jensen et al., 1966). In the Proserpine sheet area the age has been given as Upper Devonian based on the Seaforth corals (Paine, 1972) or on conodonts in samples from the Laguna Quays locality (Fergusson et al., 1994, fig. 3b). However, the crinoid species determined herein has previously only been found in the Middle Devonian (Givetian) part of the Papilio Formation of the Broken River Province. *Melocrinites* is widely recorded from the Silurian to Frasnian in the Northern Hemisphere and Australia but is only recorded from the Famennian in New York. The only Australian Frasnian record is in the Canning Basin reef complex (Jell & Jell, 1999). Since the conodont age suggested for this locality is Famennian (R.A. Henderson pers. comm. 1999) there appears to be some conflict with the crinoidal indication. This single crinoid could be a long ranging species providing a second Famennian occurrence for the genus or far less likely the section at Laguna Quays could represent a longer period of time than previously thought.

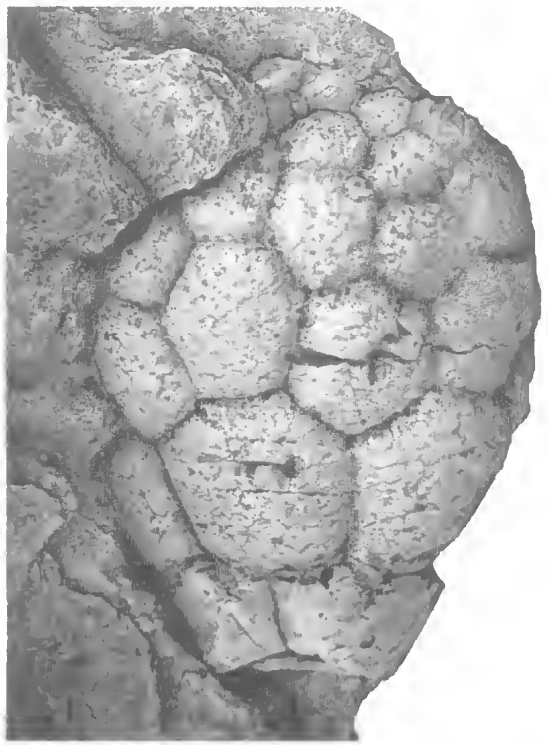

FIG. 1. *Melocrinites tempestus* Jell et al., 1988, lateral view of cup QMF40967, ×1.5.

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